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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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JUNE 4 1997

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In the Matter of)

Amendment of Part 90 of the)
Commission's Rules to Provide)
for the Use of the 220-222 MHz)
Band by the Private Land Mobile)
Radio Service)

PR Docket No. 89-552
RM-8506

Implementation of Sections 3(n))
and 332 of the Communications Act)

GN Docket No. 93-252

Regulatory Treatment of Mobile)
Services)

Implementation of Section 309(j))
of the Communications Act)

PP Docket No. 93-253

Competitive Bidding, 220-222 MHz)

To: The Commission

REPLY COMMENTS OF
POLICE EMERGENCY RADIO SERVICES, INC.

Respectfully submitted,

POLICE EMERGENCY RADIO SERVICES, INC.

By: 

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June 4, 1997

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To: The Commission

REPLY COMMENTS OF
POLICE EMERGENCY RADIO SERVICES, INC.

1. Police Emergency Radio Services, Inc. ("PERS"), pursuant to Section 1.415 of the Federal Communications Commission ("FCC" or the "Commission") Rules and Regulations, 47 U.S.C. 1.415, respectfully submits its' Reply Comments in the above titled proceeding. As demonstrated herein, PERS generally supports the Comments of the American Mobile Telecommunications Association, Inc. ("AMTA") and urges the Commission to adopt AMTA's proposals concerning the treatment of Phase I Non-Nationwide Licensees.

2. Additionally, pending a review of its' promised analysis, PERS finds the Comments of Glenayre Technologies, Inc. ("Glenayre") of merit. Glenayre is acknowledged as a leader in the development of equipment and software for wireless communication services, particularly paging.

Glenayre's statement

"Presently, there is no data equipment that meets the Commission's data efficiency standard. Glenayre expects, however, that such equipment can be developed by the end of the decade."

which was put forth in its' Petition for Partial Reconsideration, unless proven incorrect, mandates that the Commission revisit its' Third Report and Order (Order) and consider inverting the spectrum efficiency standard to require the utilization of spectrum efficient technologies as they become available. It is the opinion of PERS that such a ruling would achieve the Commission's desire for spectrum efficiency while better serving the public interest.

3. PERS finds, for the most part, that the decisions contained in the Commission's Order are sound. PERS commends the Commission for its' retention of the existing bandplan. PERS believes that this was essential to the ability of the fledgling 220 MHz industry to support the existing base of subscribers and to facilitate the ability for Phase I and Phase 2 licenses to be integrated thus expanding the ability to serve the public need.

4. However, there are a few areas in which PERS believes the recently adopted Order will prevent or diminish our ability to fully develop these systems and their competitive offerings. This would be highly detrimental to PERS and other operators that have invested heavily in the development and deployment of 220 MHz systems as well as the subscribers already being served or soon to be served by them.

I. INTRODUCTION

4. PERS is a Massachusetts for profit company founded in 1970 and incorporated in 1972 which specializes in serving the wireless needs of the public safety, business and industrial sectors. Due to the growing spectrum shortfall in the greater Boston area, PERS closely followed the development and early testing of ACSB technology on developmental channels authorized in between existing VHF land mobile radio ("LMR") channels. Independently, PERS arrived at conclusions similar to those of the Commission.

5. When the Commission opted to open the spectrum from 220-222 MHz for use with very narrowband technologies, PERS made application to the Commission for channels in the greater Boston area. This ultimately resulted in the award of a QO license for Framingham, MA. Shortly thereafter, PERS was approached by several of the QT category licensees for whom we have provided consulting, construction, management and other services.

6. PERS constructed its' first 220 MHz system in

December of 1993. Since that time we have been involved at some level in the construction of over one-hundred 220 MHz system. PERS has recently completed the phase 1 of its' IntelliComm real-time, wide-area networking project. Phase 1 has brought an initial eighteen systems within four New England states into a cohesive integrated network designed to economically provide for the mobile voice and data needs of small through mid-sized businesses.

7. PERS and its' array of clients represent a substantial number of incumbent licenses. PERS and its' clients are committed to the continued implementation and development of the 220-222 MHz allocation and are intent on being involved in the future auction of this spectrum to further the efforts to date. Thus, PERS, on behalf of the clients and subscribers it represents, has a significant interest in the resolution of any and all issues confronting the 220 MHz industry.

II. IN REPLY TO THE COMMENTS OF AMTA

A. The Rules Adopted Do Not Provide Adequate Protection for Phase I Non-Nationwide Licensees

8. PERS, as one of the "pioneers" referred to in the AMTA filing can readily attest to the "unusually difficult history" also mentioned. PERS, and for that matter, any bona-fide 220 MHz operator, supports the Commission's desire to balance between the interests of Phase I and Phase II licensees, as most are looking forward to being in both categories.

9. PERS supports the assessment that the most critical consideration for both categories is, and will always be, that their respective systems consistently perform at a level of coverage and quality sufficient to attract and retain subscribers. As AMTA points out, co-channel interference will degrade the operation of both stations and thus, it is in the interest of all potentially affected parties to proactively avoid such problems. PERS urges the Commission to adopt co-channel separation that properly protects the performance of all systems based on the real-world operation of these systems.

10. PERS can attest to the fact that the prevalent use of single sideband rather than conventional FM technology to meet the technical requirements the Commission established for its' 220-222 MHz allocation demands greater co-channel protection to achieve an appropriate service level. Thus, PERS respectfully request the Commission reassess its' position. The FCC's assertion that the arguments were

"not consistent with the methodology we have used to provide for co-channel protection for incumbent licensees in other auctionable land mobile services (e.g., 800 MHz and 900 MHz SMR)"

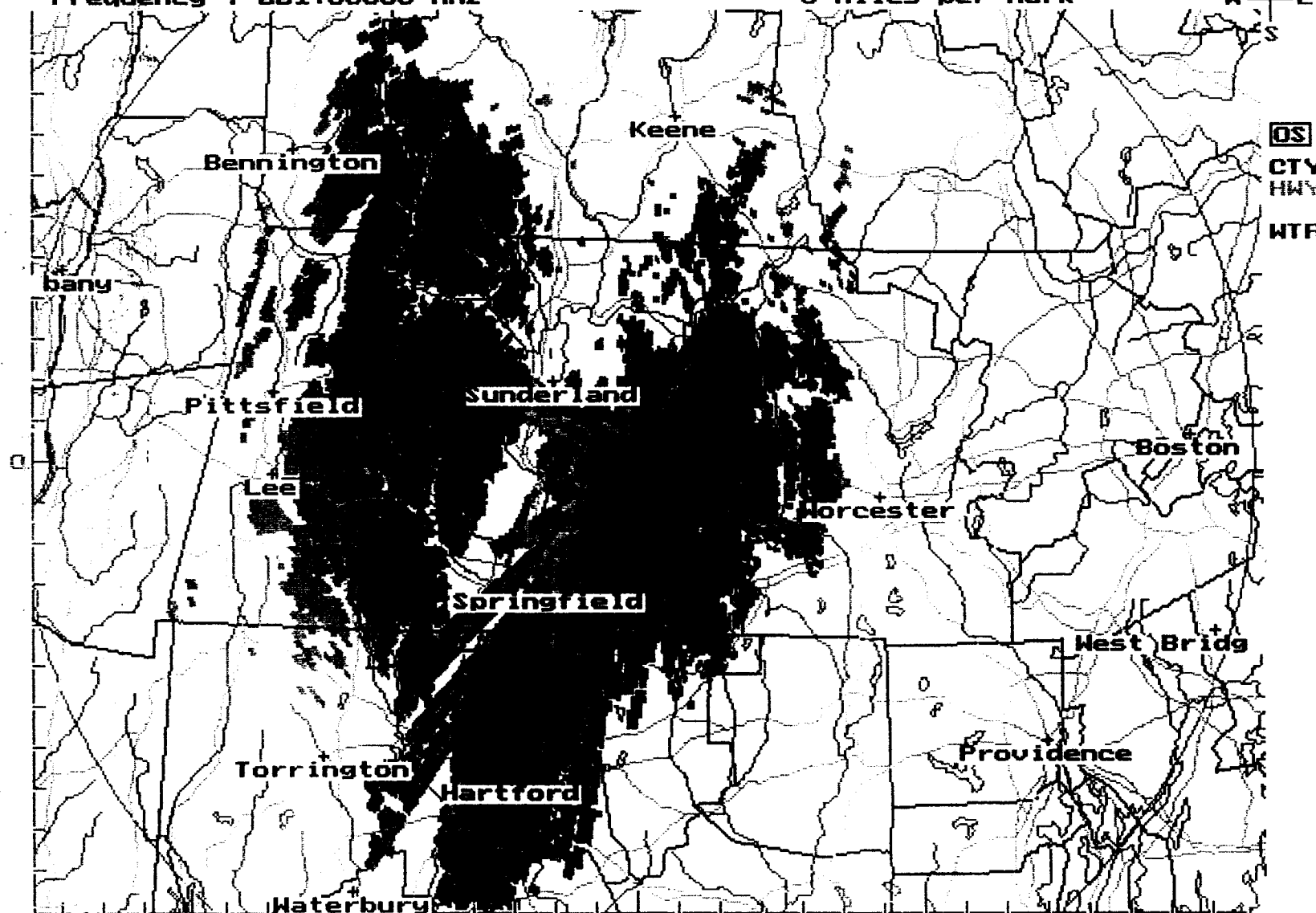
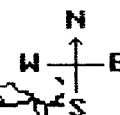
even if true, is predicated on the incorrect assumption that the real world propagation characteristics of 220 MHz sideband transmissions are consistent with the propagation characteristics of 800 and 900 MHz conventional narrowband FM. The mere fact that sideband operation does not provide the receiver capture effect of FM should underscore the need for further consideration. Failure on the part of the Commission to both acknowledge and address the differences between this and other allocations will create the very kind of imbalance it seeks to avoid.

11. Over the past three years PERS has had the opportunity to test and adjust the formulation it has been using to conduct propagation studies. In support of our position, please refer to the accompanying exhibits which are labeled 1A through 3C. These exhibits represent data on three real world sites we have constructed and have extensive knowledge thereof. For each site, we have supplied three different presentations. The first, is a propagation study done using formulations refined and verified over the past three years. The second is a study done using the 38 dBu operating contour with 10 dB boundary protection authorized in the Order. The third is a study done using the industry recommended 28 dBu contour with 10 dB boundary protection. Please note that for all three sites ("A", "B" and "C") the 28 dBu contour comes the closest to the actual real-world coverage represented in the actual propagation study shown first. I could just as easily prepared similar studies on other sites but let me assure the Commission I can guarantee similar results wherever and whenever there isn't some special overriding terrain consideration. I should also point out that the actual propagation studies presented as the first document for each site were prepared using the actual antenna, gain, height and transmitter power not maximum permissible. Typically, ERP ranges between 15 and 25 watts with the repeaters currently being used yet, the coverage obtained with 95% reliability reaches out to the 28 dBu contour in all cases.

12. As an active 220 MHz operator with over 25 years experience in the communications industry and over 3 years with 220 MHz systems, I must emphatically state my concurrence with AMTA assess that both the public interest and the interest of the 220 MHz industry will be irreparably harmed if the Commission fails to revisit its' Phase I/Phase II separation criteria. I cannot provide an industry wide subscriber count however, I would assure you that the number is growing on a daily basis and is expected to climb markedly as current analog 800 MHz users are displaced.

Site Name : BELCHERTOWN
 Frequency : 221.00000 MHz

Scale = 1 : 1250000
 5 miles per mark



■ Coverage	■ Cone/Silence	□ <0.35uV	■ 0.35-0.65uV	□ 0.65-0.95uV
29.4 %	0.0 %	61.9 %	5.1 %	2.5 %

EXHIBIT 1A

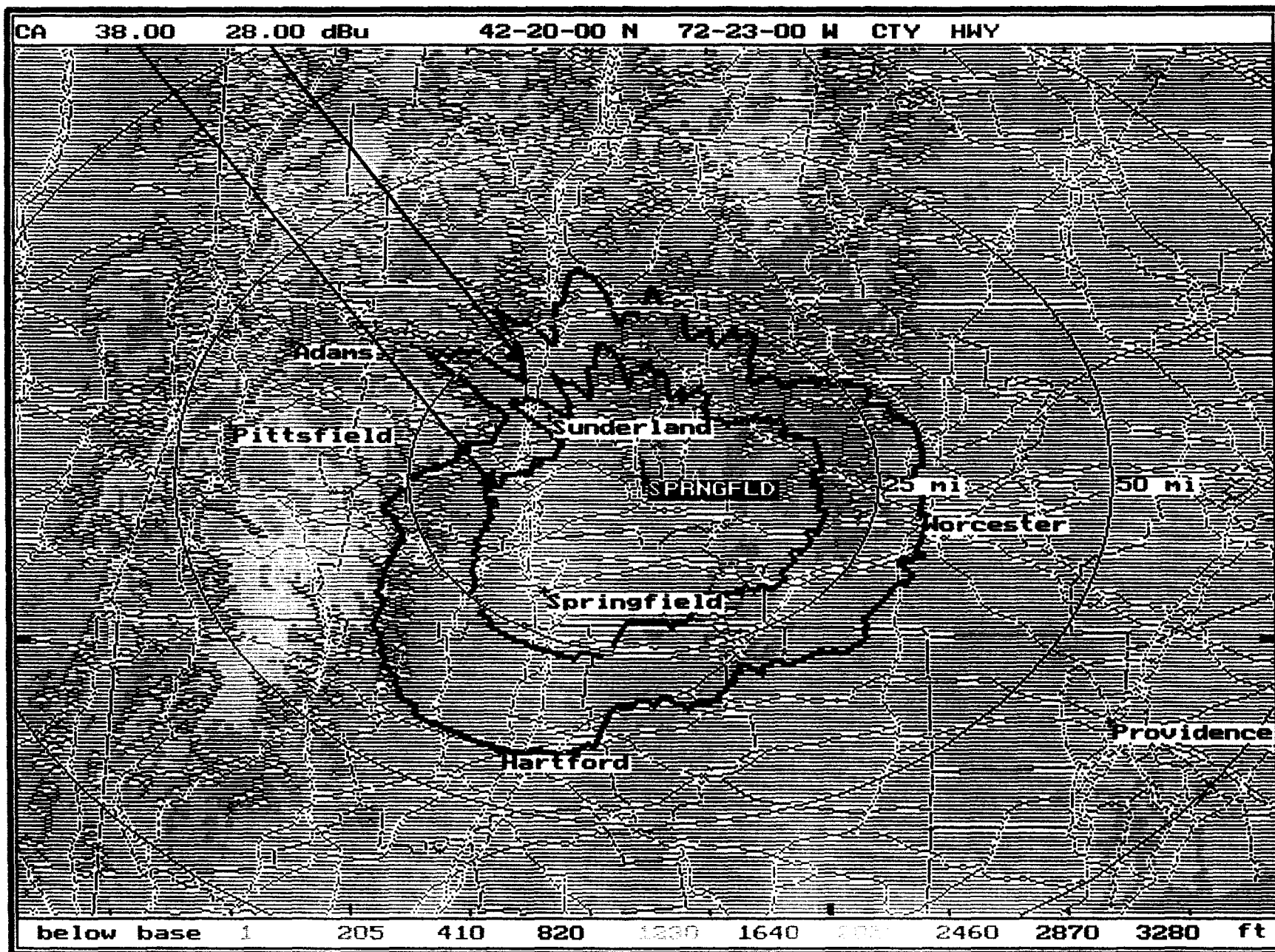


EXHIBIT 2A

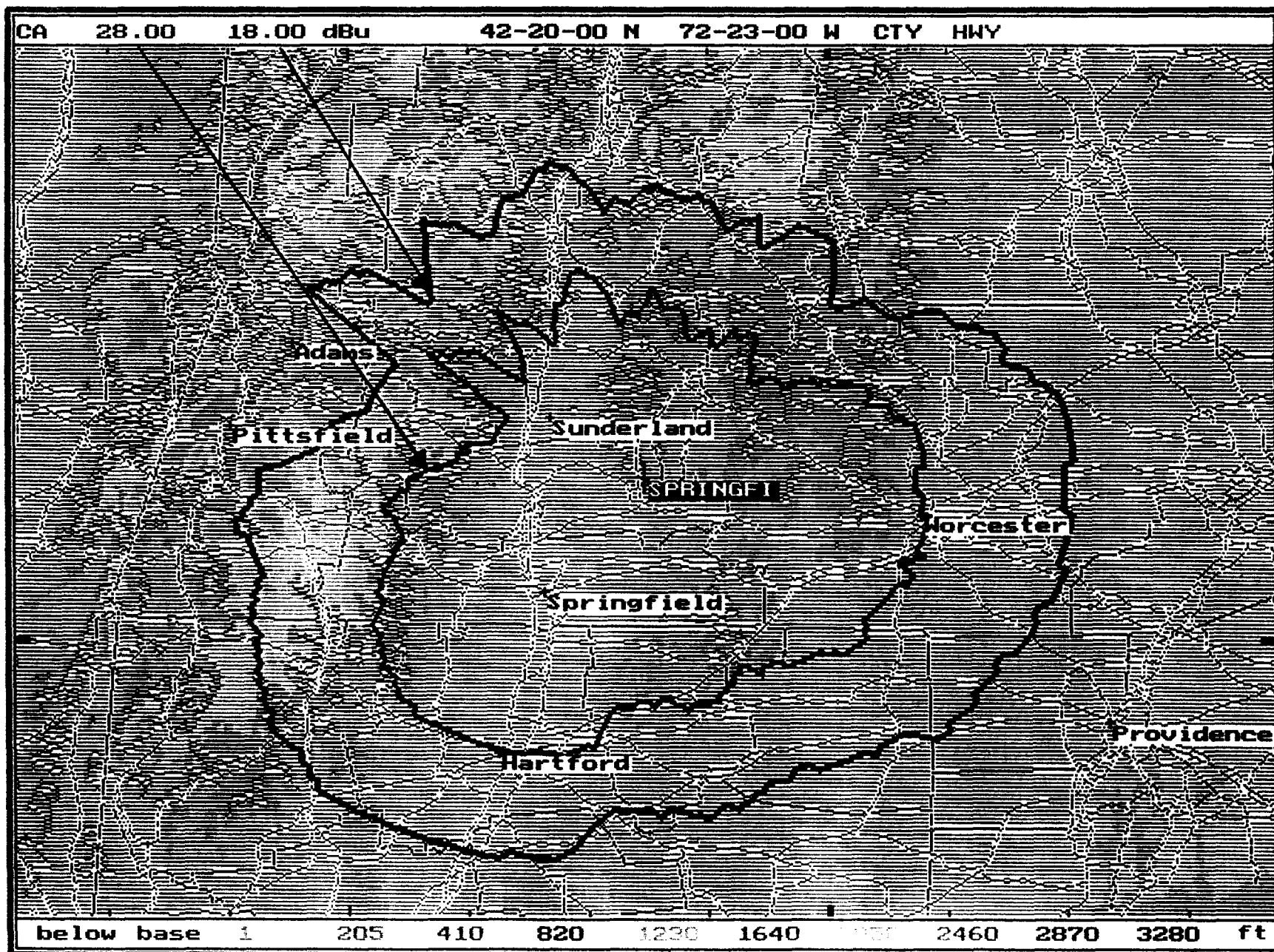
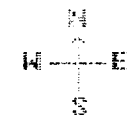


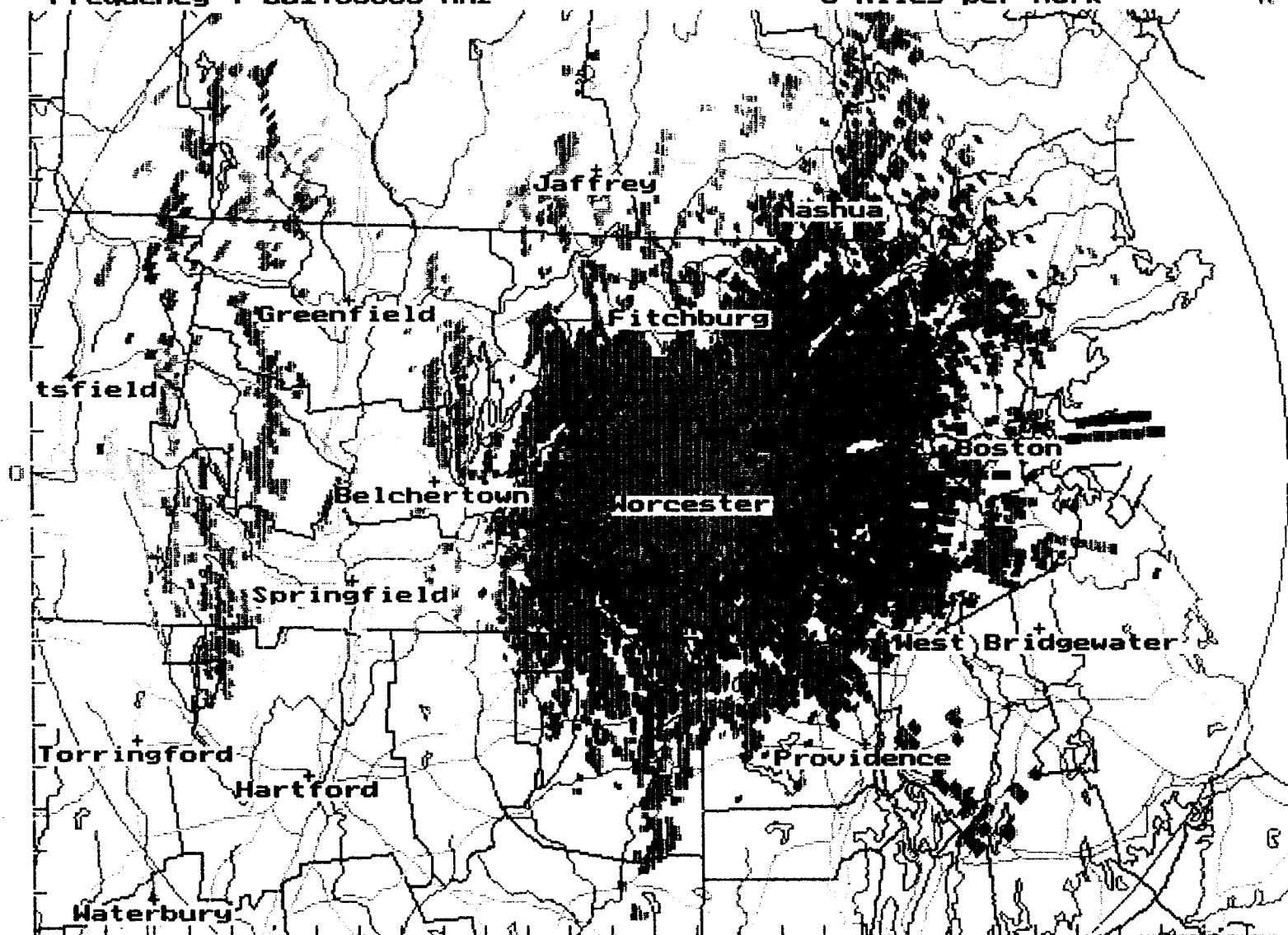
EXHIBIT 3A

Site Name : PAXTON, MA
 Frequency : 221.00000 MHz

Scale = 1 : 1250000
 5 miles per mark



OS
 CTY
 HWY
 WTR



▨ Coverage	■ Cone/Silence	□ <0.35uV	■ 0.35-0.70uV	■ 0.70-1.40uV
23.9 %	0.0 %	64.6 %	8.0 %	3.5 %

EXHIBIT 1B

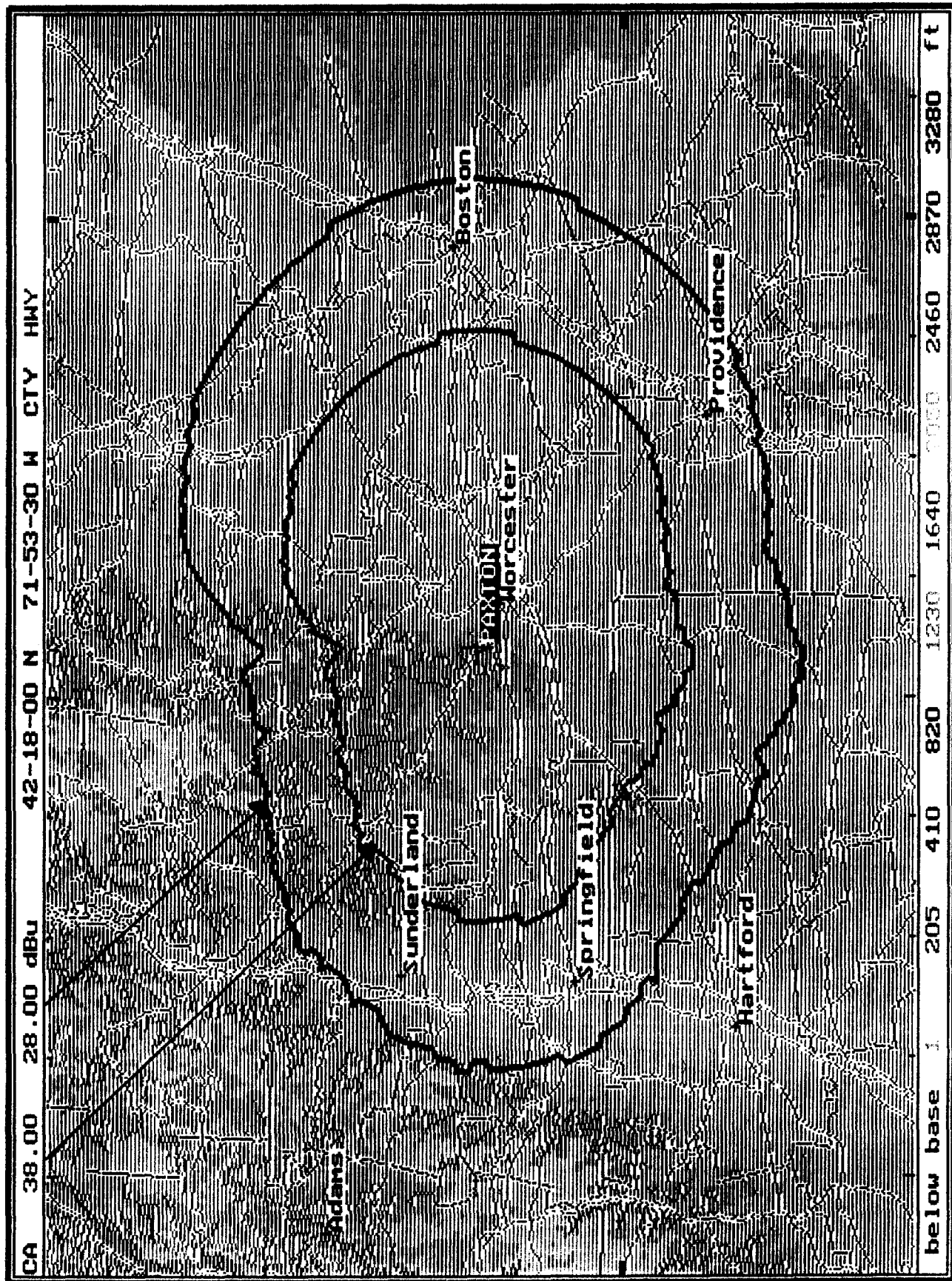


EXHIBIT 2B

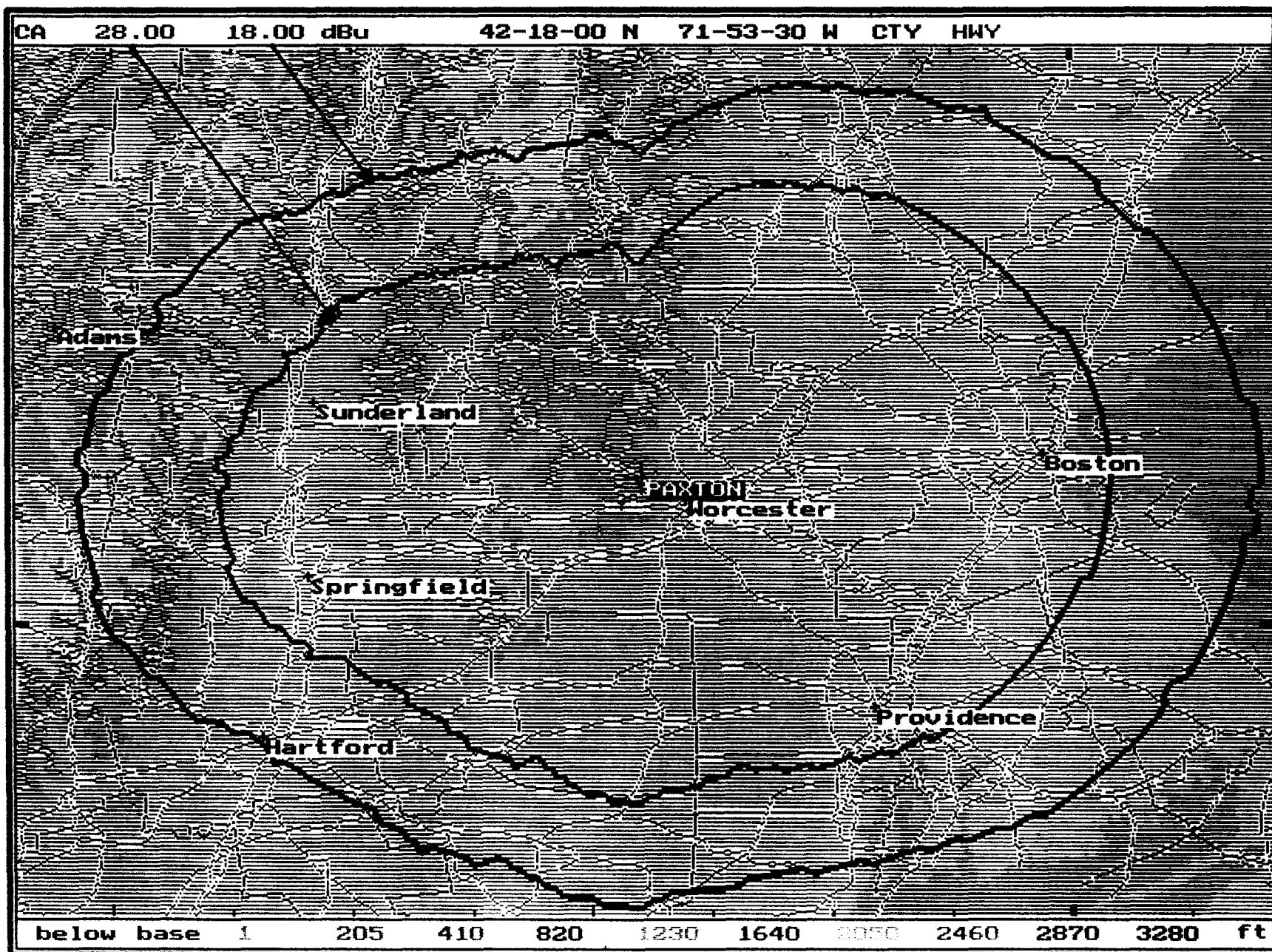
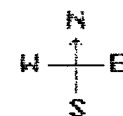


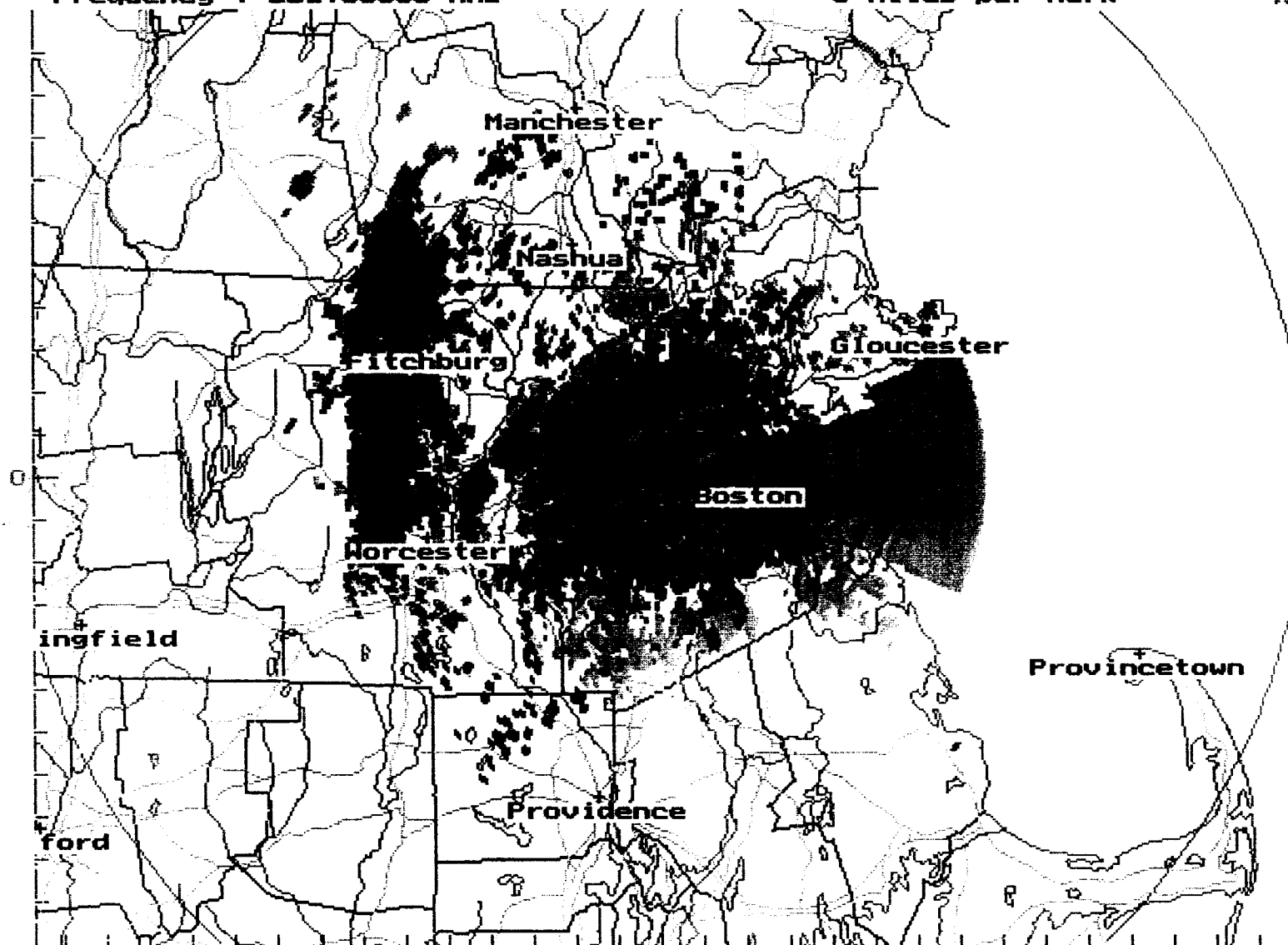
EXHIBIT 3B

Site Name : WALTHAM, MA
 Frequency : 221.00000 MHz

Scale = 1 : 1250000
 5 miles per mark



OS
 CTY
 HWY
 WTR



■ Coverage	■ Cone/Silence	□ <0.35uV	■ 0.35-0.70uV	■ 0.70-1.40uV
20.8 %	0.0 %	69.4 %	3.0 %	0.6 %

EXHIBIT 1C

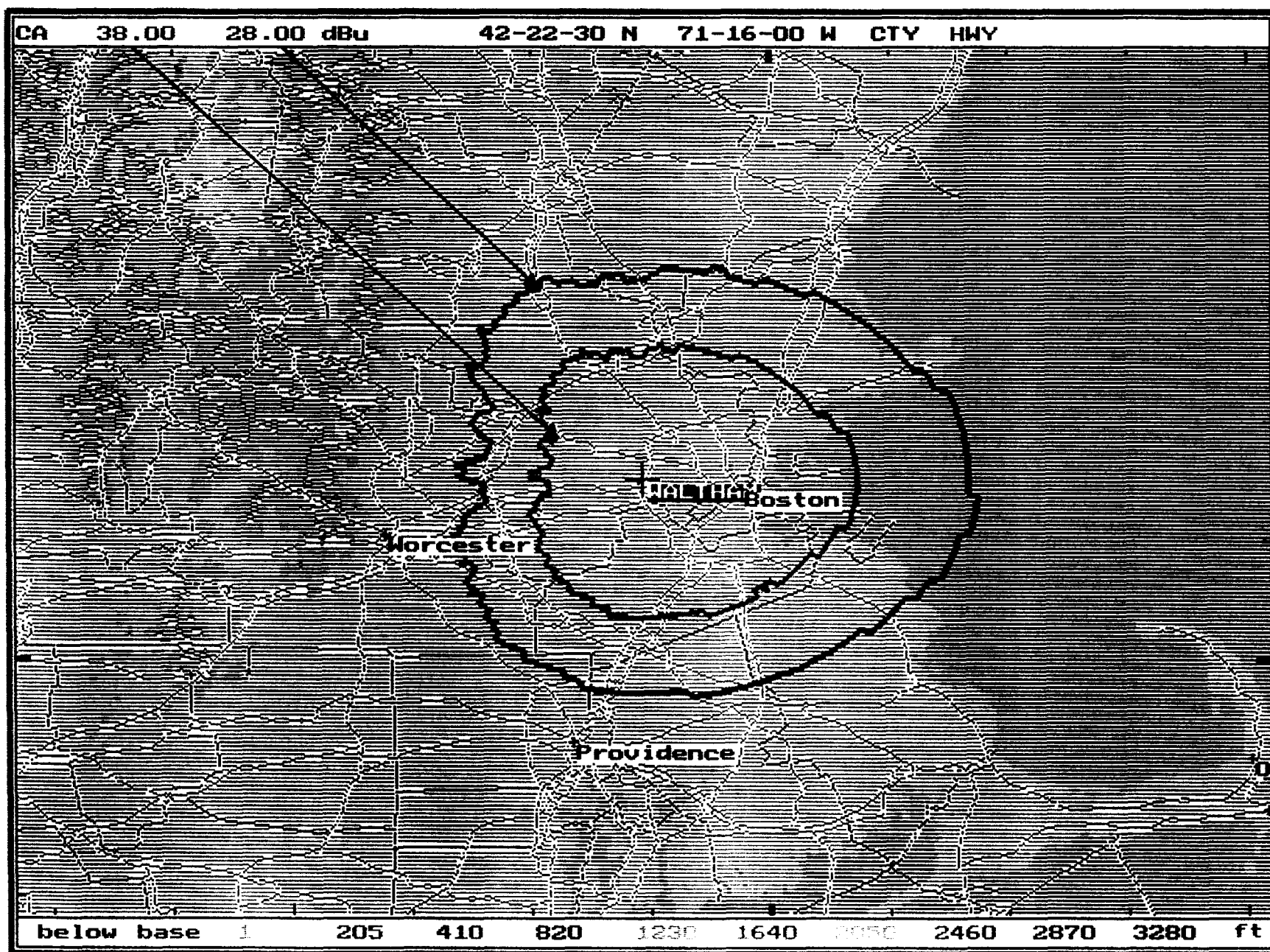


EXHIBIT 2C

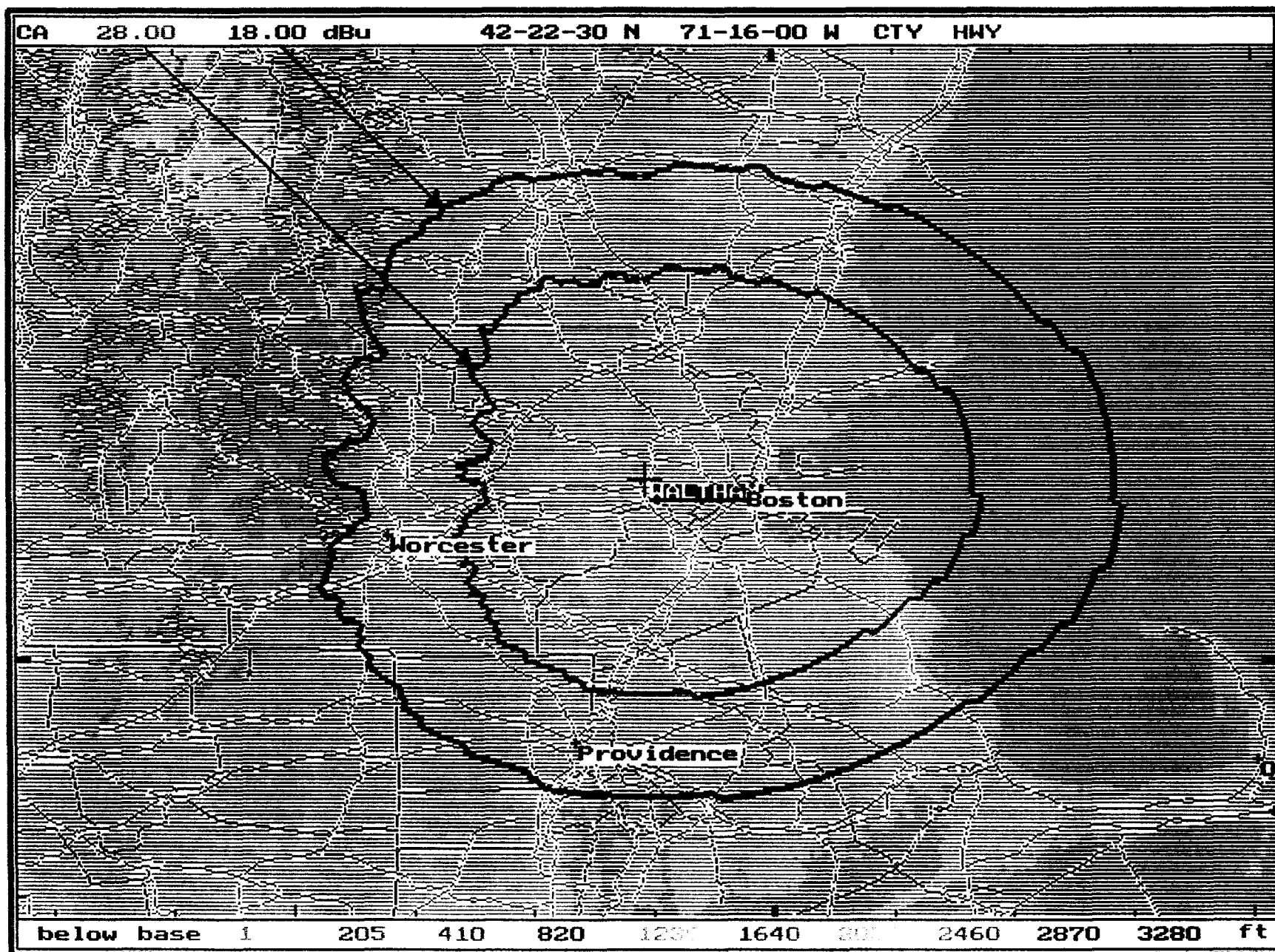


EXHIBIT 3C